Roll No.:   **Subject Name: Microprocessors**
Year/Branch: 3/ EC   **Subject Code: NEC 503**
Max Time: 1Hours 30 Minute   **Max Marks: 50**

SECTION-A

Q.1 Attempt all parts carry equal marks. Write answer of each part in short.   (2x5=10)

(a) Register B has 65 H and accumulator has 97 H. Subtract the contents of register B from the contents of accumulator. Also give flag status and display the answer at output port 1.
(b) Give the significance of SIM instruction available in 8085.
(c) Calculate the number of memory chips needed to design 64K byte memory if memory chip size available is 2048 X 1?
(d) How demultiplexing is done in 8085 microprocessor?
(e) Explain the role of DT/R and DEN signals of 8086?

SECTION-B

Note: Attempt any five questions from this section.   (5x5=25)

Q.2 Design and explain the timing diagram for execution of OUT instruction
Q.3 What do you mean by memory segmentation in 8086? Explain the base index and register relative addressing modes of 8086?
Q.4 What are interrupts in 8085? What happens when an interrupt is encountered? Classify the interrupt of 8085.
Q.5 How is RESET signal generated from 8284 clock generator? Design its interfacing with 8086.
Q.6 What is the size of flag register of 8085 & 8086. Diagrammatically design the same for both.
Q.7 How is clock generated for 8086 microprocessor? Explain using clock cycle & block diagram for the asked circuit.
Q.8 What is difference between Maximum and Minimum mode of operation in 8086?
Q.9 Tabulate the differences between 8085 & 8086 microprocessors.

SECTION-C

Note: Attempt any two questions from this section.   (7.5x2=15)

Q10. i) Explain the advantages of pipelining in 8085.
    ii) How the 20 bit physical address is calculated in 8086 microprocessor.
    iii) How is memory banking helpful in dividing 20 bit address for 8086?

Q.11 i) Specify the register and flag contents (A B Z CY P) as following instructions are executed:

                SUB A
                MOV B, A
                DCR B
                INR B
                SUI 01H
                HLT

    ii) What are tri-state devices? Why are they necessary in a bus oriented system?

                                                                                    P.T.O.

Q.12 i) With proper circuit diagram explain the maximum mode of 8086.

ii) For the given circuit find the address range for all the interfaced memories.